# Certificate IV in Information Technology Networking (ICA40411)

The recommended Certificate IV study plan has the following key features:

* The recommended study plan will take a new student 9 – 12 months to complete.
* There is a focus on the latest network technologies including Microsoft, Linux and CISCO
* There is a focus on Industry certifications and students will have the opportunity to gain a number of Industry certificates as well as the TAFE one.
* Student will be able to obtain a number of Skill sets without having to complete the whole certificate.

## Underpinning Skills and Knowledge

This is not an entry level course. There is an amount of assumed skills and knowledge prior to commence this course. To successfully enter at this level a student needs to have either:

* Completed the Certificate III in Information, Digital Media and Technology, or
* Completed other study equivalent to it, or
* Have work experience and knowledge equivalent to it.

## TAFE SA Recommended Study Plan for Full-Time Students

Students can either elect to complete the Certificate III in Information, Digital Media and Technology before commencing the Certificate IV or can elect to only do the underpinning skills required.

The following table shows the recommended study plan for the Certificate IV in Information Technology Networking only using underpinning skills. Each stage is one Semester (or 6 months) in length for Full-Time students\*.

|  |  |  |  |
| --- | --- | --- | --- |
| Stage 1 | | Stage 2 | |
| Term 1 | **Term 2** | **Term 1** | **Term 2** |
| 3WNF  3WHS^  3WSF †  4IVM | 4WAD  4LXA | 4WNI  5LXN |  |
| Semester | | | |
|  | 4CIN  4CEP^ | |  |
| Skill Sets | | | |
| Gain the   * *Certified Networking Technician Skill Set* * *Certified IT Network Enterprise, Security or Server Administrator Skill Set* * *Certified Technology Specialist - Graphical User Interfaces Skill Set* * *System and Network Plus Technician Skill Set* | | | |
| Exit Qualifications | | | |
| Exit with the *Certificate IV in Information Technology Networking* | | |  |

The following table shows the recommended study plan for the Certificate IV in Information Technology Networking with exit option at Certificate III. Each stage is one Semester (or 6 months) in length for Full-Time students\*.

|  |  |  |  |
| --- | --- | --- | --- |
| Stage 1 | | Stage 2 | |
| Term 1 | **Term 2** | **Term 1** | **Term 2** |
| 3WHS^  3SWP^ †  3CUD^ †  3ITE † | 3WSF †  3PAC †  3WNF | 4WAD  4LXA | 4WNI  5LXN |
| Semester | | | |
| 4IVM | | 4CIN  4CEP^ | |
| Skill Sets | | | |
| Gain the   * *Hardware Technicians Skill Set* | | Gain the   * *Certified Networking Technician Skill Set* * *Certified IT Network Enterprise, Security or Server Administrator Skill* * *Certified Technology Specialist - Graphical User Interfaces Skill Set* * *System and Network Plus Technician Skill Set* | |
| Exit Qualifications | | | |
| Exit with *Certificate III in Information, Digital Media and Technology* | | Exit with the ***Certificate IV in Information Technology Networking*** | |

**Please Note: This program structure is subject to change.**

**The duration of the course will be dependent on the underlying skills the student has at the start of the course.**

**Legend:**

\* The length of time for Part-Time students will depend on the number of subjects studied in each semester.

^ These subjects are delivered in an external/online mode. Some other subjects maybe available in an external/online or blended delivery mode please check this with your lecturer at time of registration.

† Under pinning skills not required for Certificate IV qualification.

**How subjects are delivered and their duration will be dependent on campus specific scheduling issues.**

**Please contact your local TAFE for specific course schedules.**

## Certificate IV in Information Technology Networking (ICA40411)

**To receive the Award students need to complete the following subjects**

|  |  |  |  |
| --- | --- | --- | --- |
| Subject | National Code | Unit Name | Pre- Requisite |
| 3WHS | **Workplace Health and Safety** | | |
| BSBWHS304A | Participate effectively in WHS communication and consultative processes | N/A |
| 4CEP | **Copyright, Ethics and Privacy** | | |
| ICAICT418A | Contribute to copyright, ethics and privacy in an IT environment | N/A |
| Windows Sever 2012 Technologies | | | |
| 4WAD | **Windows Active Directory** | | |
| ICTTEN5201A | Install, configure and test a server | 3WSF, MTA 98-365, or proof of equivalent knowledge |
| ICANWK401A | Install and manage a server |
| ICAICT401A | Determine and confirm client business requirements |
| 4WNI | **Windows Networking Infrastructure** | | |
| ICANWK403A | Manage network and data integrity | 3WSF, MTA 98-365, or proof of equivalent knowledge |
| ICANWK406A | Install, configure and test network security |
| Linux Technologies | | | |
| 4LXA | **Linux Administration** | | |
| ICANWK408A | Configure desktop environment | 3ITE or proof of equivalent knowledge |
| ICANWK411A | Deploy software to networked computers |
| 5LXN | **Linux Network** | | |
| ICANWK504A | Design and implement an integrated server solution | 4LXA or proof of equivalent knowledge |
| ICANWK505A | Design, build and test a network server |
| CISCO Technologies | | | |
| 4CIN | **CISCO Introduction to Networks** | | |
| ICANWK404A | Install, operate and troubleshoot a small enterprise branch network | 3WNF, MTA 98-366, or proof of equivalent knowledge |
| ICTTEN4199A | Install, configure and test a router |
| ICTTEN4198A | Install, configure and test an internet protocol network |
| ICASAS426A | Locate and troubleshoot IT equipment, system and software faults |

|  |  |  |  |
| --- | --- | --- | --- |
| Virtualization Technologies | | | |
| 4IVM | **Install Virtual Machines** | | |
| ICANWK402A | Install and configure virtual machines for sustainable ICT | 3ITE or proof of equivalent knowledge |
| Other information | | | |
|  | To be eligible for the Certificate IV students will also need to complete an additional **specified** competency at the certificate IV level. If a student uses the suggested study plan they obtain this in the subject 3WNF. If a student does not do this subject they need to apply for RPL for it or gain RPL in another **specified** competency. Please speak to your local campus for more information. | | |

## Usual Pathway pre-requisites for people entering at this level

It is usual for students undertaking this course to have completed the **Certificate III in Information, Digital Media and Technology**. Student starting at this level will need to have done or demonstrated knowledge in the subjects below. These are linked to vendor specific skills and you cannot undertake vendor training at the higher level without having completed the lower level.

|  |  |  |  |
| --- | --- | --- | --- |
| Subject | National Code | Competency Name | Pre- Requisite |
| 3WNF | **Windows Networking Fundamentals** | | |
| ICANWK305A | Install and manage network protocols | 3ITE |
| ICASAS307A | Install, configure and secure a small office home office network |
| ICANWK405A | Build a small wireless local area network **◦** |
| 3WSF | **Windows Server Fundamentals** | | |
| ICANWK304A | Administer network peripherals | 3ITE |
| ICANWK303A | Configure and administer a network operating system |

**◦** Required competency for the Certificate IV in Information Technology Networking.

## Subject Descriptions

|  |  |
| --- | --- |
| Subject | Description |
| 4CEP | This subject involves maintaining professional and ethical conduct as well as to ensure that personal information of stakeholders is handled in a confidential and professional manner when dealing with stakeholders in an information technology (IT) environment. |
| 3WHS | This subject requires students to participate in workplace occupational health and safety (WHS) consultative processes. Consultative arrangements, also referred to as participative arrangements, give the students insights in WHS matters, and looks at the opportunity for stakeholders to participate in decisions that may impact on the WHS of the workplace. |
| 4IVM | This subject describes the performance outcomes, skills and knowledge required to develop and implement virtualisation technologies with the goal of providing a more sustainable information and communications technology (ICT) environment. This subject will introduce students to the concept of virtualization and virtualization products such as VMWare Workstation, Server, Player, MS Virtual PC, Hyper-V and Oracle Virtualbox |
| 4CIN | This subject prepares students for jobs as network technicians and helps them develop additional skills required for computer technicians and help desk technicians. It provides a basic overview of routing and switching, IP addressing and security. It also familiarises students with the OSI layer model as well as the TCP/IP protocol stack. Students learn about the soft skills required for help desk and customer service positions and the final chapter helps them prepare for the CCENT certification exam. Network monitoring and basic troubleshooting skills are taught in context. |
| 4WNI | This subject provides students with the knowledge and skills to configure and troubleshoot Windows Server 2012 Network Infrastructures. It will cover networking technologies most commonly used with Windows Server 2012 such as DNS, DHCP. Network Policy server and Network Access Protection and configuring secure network access. It also covers fault tolerant storage technologies, Network Storage and routing and remote access, monitoring and compliance updates as well as other relevant technologies. This subject will This subject along 4WAD will assist students prepare for Microsoft 70-410 and 70-411 exam. |
| 4WAD | This subject provides in-depth training on implementing, configuring, managing and troubleshooting Active Directory Domain Services (AD DS) in Windows Server 2012 and Windows Server 2012 R2 environments. It covers core AD DS concepts and functionality as well as implementing Group Policies, performing backup and restore and monitoring and troubleshooting Active Directory related issues. After completing this subject students will be able to configure AD DS in their Windows Server 2012 and Windows server 2012 R2 environments. This subject will This subject along 4WNI will assist students prepare for Microsoft 70-410 and 70-411 exam. |
| 4LXA | This subject will require students learn to be effective users of Linux systems, acquiring skills and understanding of command line functions, file systems, users and groups, bash shell, process management, text editors, network applications, searching and organizing data, and graphical applications. Students learn to be effective administrators of Linux systems, mastering tasks such as hardware and device configuration, file system management, user administration, network configurations, kernel services, attaching new Linux systems to a corporate network, configuring the new systems for end-users, and troubleshooting. |
| 5LXN | This subject will require students learn to deploy and administer the core networking services using Linux which includes the Apache Web Server, the Samba File Server, BIND Domain Name Service, the Sendmail Mail Transport Agent, the Network File System (NFS). Students will learn to secure network applications using application level access control and kernel level firewalling (iptables). |

Students who complete the following competencies will be eligible to receive the Statement of Attainment for the following Skill Sets.

**Certified Networking Technician Skill Set**

|  |  |  |  |
| --- | --- | --- | --- |
| Subject | National  Code | Competency Name |  |
| 3WNF | **Windows Network Fundamentals** | | |
| ICANWK405A | Build a small wireless local area network |  |
| 4CIN | **Cisco Introduction to Networks** | | |
| ICANWK404A | Install, operate and troubleshoot a small enterprise branch network |  |
| ICTTEN4199A | Install, configure and test a router |

**Certified IT Network Enterprise, Security or Server Administrator Skill Set**

|  |  |  |  |
| --- | --- | --- | --- |
| Subject | National  Code | Competency Name |  |
| 4WNI | **Windows Networking Infrastructure** | | |
| ICANWK403A | Manage network and data integrity |  |
| ICANWK406A | Install, configure and test network security |

**Certified Technology Specialist – Graphical User Interfaces Skill Set**

|  |  |  |  |
| --- | --- | --- | --- |
| Subject | National  Code | Competency Name |  |
| 4WNI | **Windows Networking Infrastructure** | | |
| ICANWK403A | Manage network and data integrity |  |
| 4LXA | **Linux Administration** | | |
| ICANWK408A | Configure desktop environment |  |

**System and Network Plus Technician Skill Set**

|  |  |  |  |
| --- | --- | --- | --- |
| Subject | National  Code | Competency Name |  |
| 3WNF | **Windows Network Fundamentals** | |  |
| ICASAS307A | Install, configure and secure a small office home office network |  |
| 4CIN | **Cisco Introduction to Networks** | | |
| ICANWK404A | Install, operate and troubleshoot a small enterprise branch network |  |
| 4WNI | **Windows Networking Infrastructure** | | |
| ICANWK406A | Install, configure and test network security |  |
| 4WAD | **Windows Active Directory** | | |
| ICANWK401A | Install and manage a server |  |

**Other Certificate III skill sets are available depending on the study path selected.**